REMARKS

The Amendments

Claim 1 was amended for clarification purposes and not to avoid the prior art. Claims 2-12 were added to more particularly claim the invention.

With respect to claim 10 and 12 in particular, they are supported by page 8, line 4 of the specification which indicates that the entire injected slurry is expelled through the vessel outlet thereby making it even clearer that the coalescing vessel does not separate the slurry into multiple outlet streams having differing compositions.

Also, with respect to new claim 11, it is supported by page 7, line 8 of the specification, and it points out that the slurry emerges from a conditioning pipeline, i.e. after steps which precede the conditioning have been accomplished.

With respect to the claims directed to the assembly, it is appreciated that the Examiner may consider that the process claims have been constructively elected. If so, Applicants will not traverse the restriction requirement, but reserve the right to file one or more divisional applications directed to the assembly under 35 U.S.C. 120 and 121.

Claims Rejections – 35 USC § 102

The rejection of claim 1 under 35 U.S.C. 102(a) as being anticipated by Maciejewski (U.S. 6,119,870) is respectfully traversed for the reasons now following.

Maciejewski discloses a method and an apparatus for desanding a conditioned aqueous oil sand slurry to produce two separate products, namely, (1) a lean bitumen froth stream, and (2) a course solids or tailings stream. Oil sand slurry is introduced at one end (through an inlet) of a cycloseparator and bitumen froth and tailings are separately removed by means of separate outlets at the other end. The bitumen froth (core) is removed through a vortex finder and the tailings (outer layer) are removed through a peripheral outlet.

On the other hand, the invention as claimed in claim 1 is directed towards a process for treating an aqueous aerated oil sand slurry prior to subjecting the oil sand slurry to separation in a separator. A stream of oil sand slurry is first treated in an elongate closed vessel by introducing the oil sand slurry at one end (an inlet), thereby causing the slurry to rotate and allow the bitumen in the oil sand slurry to coalesce to form larger droplets of bitumen. The entire stream of treated oil sand slurry is then expelled through the other end (an outlet) where it is then subjected to separation in a separator, such as a primary separation vessel (PSV), cycloseparator, and the like. By giving the bitumen droplets present in the oil sand slurry the opportunity to coalesce, improved bitumen froth recovery from oil sand slurry can be realized when the oil sand slurry is then subjected to a separation step.

Thus, key to the Maciejewski apparatus and method is the ability to separately remove bitumen froth through a vortex finder. However, the present method and apparatus does not require a vortex finder, as the object is not to produce a separate stream of bitumen froth, but rather to produce a treated oil sand slurry stream. Hence, the elongated closed vessel of the invention embodied in claims 1 and new claim 6 does not require a vortex finder and as such is a much simpler device. In fact, inclusion of such a vortex finder would defeat the purpose of the invention, namely, to produce a treated oil sand slurry for further processing.

Thus, Maciejewski does not disclose a method wherein the bitumen in an oil sand slurry is allowed to coalesce in an elongate closed vessel prior to subjecting the oil sand slurry to a separation step in a separator. Nowhere in Maciejewski is it suggested that a treated oil sand slurry stream is produced, that the entire stream is removed from the cycloseparator through a vessel outlet and that the expelled treated slurry is then subjected to separation into a separator. In fact, Maciejewski clearly teaches away from expelling oil sand slurry through an outlet. Hence, Maciejewski fails to disclose "expelling the treated slurry stream through the vessel outlet" and "introducing the expelled treated slurry into the separator". As the Maciejewski reference does not disclose all of the elements of claim 1, it is respectfully submitted that claim 1 and dependent claims 2-5 are not anticipated by this prior art reference.

Further, with respect to new claim 6 and dependent claims 7-9 thereto, Maciejewski does not disclose an assembly for obtaining bitumen froth comprising a coalescer consisting essentially of an inlet at one end and an outlet at the other end. As mentioned, the Maciejewski apparatus requires a centrally positioned vortex finder to achieve its goal of separation and separate removal of bitumen froth and tailings. Thus, it is respectfully submitted that new claim

6 and dependent claims 7-9 are not anticipated by this prior art reference. Favorable consideration of claims 6-9 is respectfully requested.

Claims Rejections – 35 USC § 103

The rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over Maciejewski in view of Christiansen is respectfully traversed for the reasons now following.

Like Maciejewski, Christiansen discloses a cyclonic separator comprising a vortex finder for separating and separately removing fluids of differing densities. As the Examiner pointed out, the vortex finder can be seen in FIG. 6 as element 117. The vortex finder operates to separately remove gas through the vortex finder and expel it through gas outlet 112. Liquid, on the other hand, is expelled through outlet 113. Thus, as with Maciejewski, the key to the Christiansen apparatus and method is the ability to separately remove gas via a vortex finder.

However, as mentioned above, the present method and apparatus does not require a vortex finder, as the object is not to separate oil sand slurry into its components and separately remove each component but rather to treat oil sand slurry prior to subjecting the oil sand slurry to separation. Hence, the elongated closed vessel of the invention embodied in claims 1 and new claim 6 does not require a vortex finder.

Further, Christiansen discloses coalescing liquid droplets entrained in the gas flow by allowing the liquid droplets to "impinge on the vanes 134 and coalesce in droplets which migrate along the vanes to their outer free edges" [emphasis added; see column 6, lines 37-40]. The present invention does not require spirally extending vanes 134 (as shown in FIGS. 8 and 9) for bitumen droplets to coalesce. In the present invention bitumen droplets coalesce as a result of the droplets moving inwardly toward the chamber axis where the droplets are concentrated, thereby increasing the probability of bitumen droplet contact, coalescence and growth.

In summary, neither Maciejewski nor Christiansen discloses a process or apparatus to produce a treated oil sand slurry stream wherein the entire stream is expelled through an outlet and then subjected to separation into a separator. In fact, both Maciejewski and Christiansen teach away from expelling oil sand slurry through an outlet. Hence, both Maciejewski and Christiansen fail to disclose "expelling the treated slurry stream through the vessel outlet" and "introducing the expelled treated slurry into the separator". Since both of these elements are included in claim 1 and dependent claims 2-5, combining Maciejewski with Christiansen would not result in the invention as claimed in these claims. Favorable reconsideration is respectfully requested.

Further, with respect to new claim 6 and dependent claims 7-9 thereto, neither Maciejewski nor Christiansen disclose an assembly for obtaining bitumen froth comprising a coalescer consisting essentially of an inlet at one end and an outlet at the other end. As mentioned, both the Maciejewski apparatus and the Christiansen apparatus require a centrally positioned vortex finder to achieve their goal of separately removing separated products. Thus, it is respectfully submitted that combining Maciejewski with Christiansen would not result in the invention as claimed in these claims. Favorable consideration is respectfully requested.

In view of the above remarks, it is believed that the application is now in condition for allowance, but if there are any residual issues which can be expeditiously resolved by a telephone conference, the Examiner is courteously invited to telephone Counsel at the number indicated below. If Counsel is not available, please telephone Ms. Richardson at 703-812-5326, and she will transfer the matter to another attorney.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

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